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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/507,083 | 09/08/2004 | Robert Kline | 5552550124009 | 8902 |

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| EXAMINER | |
|---|---|
| NOONAN, WILLOW W | |
| ART UNIT | PAPER NUMBER |
| 2146 | |

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| 07/21/2008 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/507,083 | KLINE ET AL. | |
| | Examiner | Art Unit | |
| | WILLOW NOONAN | 2146 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *12 May 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1,7-9,21-33 and 35-38* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,7-9,21-33 and 35-38* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *08 September 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

1. The instant application having Application No. 10/507,083 has a total of 20 claims pending in the application; there are 5 independent claims and 16 dependent claims, all of which are ready for examination by the examiner.

### *Continued Examination Under 37 CFR 1.114*

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5/12/2008 has been entered.

### *Response to Arguments*

3. Applicant's arguments with respect to all claims have been considered but are moot in view of the new ground(s) of rejection.

### *Claim Rejections - 35 USC § 103*

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 1, 7-9, 21-24, 26-33, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Kasriel** (U.S. Patent No. 6,721,780) in view of **Desai** (U.S. Patent No. 6,871,218) and **Smith** (U.S. Patent No. 6,742,033).

Regarding claim 1, Kasriel teaches a system for handling data requests from mobile devices, the system comprising a memory operable to store data requests received from at least one device. *See* Kasriel at col. 4, lines 36-38 ("The pre-download statistics server includes … a data memory"). Kasriel teaches that the system comprises a state prediction module operable to access the memory and predict, a first forecasted data request for a device based on the stored data requests. *See* Kasriel at col. 2, lines 1-5 ("The web server maintains statistical information responsive to requests for information made by users, to estimate which links between web pages are most likely to be followed."). Kasriel also teaches that the system comprises a push module operable to receive the first forecasted data request from the state prediction module and in response request and receive first response data related to the first forecasted data request and push the first response data for transmission to the device over the network. *See* Kasriel at col. 1, lines 61-65 ("A web server maintains information regarding which web pages are most likely to be requested by users, and pre-downloads those web pages to associated web clients in advance of actual requests being made by the user.").

However, Kasriel does not teach that the device is a mobile device on a wireless communication network. Desai does teach that the device may be a mobile communication device. *See* Desai at col. 4, lines 40-50. It would have been obvious to

one of ordinary skill in the art at the time the invention was made to use a mobile device in Kasriel's system because Desai discloses a similar method for predictive and preemptive page caching for improved site navigation.

Further, Kasriel does not teach the push being performed on a periodic basis and independent of receiving a data request from the mobile device. Desai does teach that a push of predictive data may be performed periodically, independent of receiving a data request from the device. *See* Desai at col. 3, paragraph 2 ("and independently of any subsequent request for a second page of the Web site originating from the remote computer, preemptively carrying out a second sending step to send the remote computer one or more selected second page of the Web site based upon a prediction of a subsequent request by the remote computer, and/or a history of second pages of the Web site previously accessed by the remote computer").

Kasriel does not teach that the periodic basis at which the first response data is pushed to the mobile device is determined based on a time period during which a user of the mobile device has repeatedly requested the stored data requests. However, Smith does teach that it is well known pre-cache data on a periodic basis according to a time period during which a user of the mobile device has repeatedly requested the stored data requests such that the response data pre-cached prior to an expected new request from the user during this time period. *See* Smith at col. 7 ("step 200 monitors the user's activities on an information network such as the information that the user accesses, the time of day during which the user accesses each information, and the duration of each access. Step 202 creates a historical usage pattern for the user based

on the user's activities on the information network. … [S]teps 220 and 222 determine which information the user is expected to access from the information network and the expected time of day at which the user will request access to the information based upon the user's historical usage pattern. Step 224 creates a schedule for pre-caching the information that the user is expected to access from the information network within a threshold amount of time from the expected time at which the user will request access to the information"). It would have been obvious to one of ordinary skill to use Smith's – re-caching technique in Kasriel's system because Smith teaches that the disclosed technique is operable to increase the likelihood that the most recent information is provided to the user in a timely manner. *See* Smith, *Abstract*.

Regarding claim 7, Kasriel teaches that the state prediction module is further operable to select prediction modes according to the Identified subset of stored data. *See* Kasriel at col. 2, lines 5-11 ("These rules can be responsive to statistical measures, to information about categories of users, to demographic information, to past behavior of specific users at the web site, or to other relevant factors.").

Regarding claim 8, Kasriel teaches that the prediction modes may comprise: an atomic mode that operates on stored data requests specific to the identity of user (*see* Kasriel at col. 2, lines 8-11, "responsive to … specific users"); and a group mode that operates on stored data requests specific to a plurality of users (*see* Kasriel at col. 2, lines 8-11, "responsive to … categories of users"). Desai teaches that these users may be mobile communication devices. *See* Desai at col. 4, lines 40-50.

Regarding claim 9, Kasriel teaches that the state prediction module is operable to predict the first forecasted data request based on a Markov chain model. *See* Kasriel at col. 5, lines 15-22 ("initial node, a final node, a transition from the initial note [sic] to the final node, and a measure of a weighted probability of transition").

Regarding claim 37 Kasriel teaches that the device is configured to transmit a successful prediction notification to the state prediction module if the user makes the new request during the time period. *See* Kasriel at col. 8, lines 7-13 ("At a step 416, the pre-download device 140 determines a set of statistics associated with actual requests from one or more users at Web clients 110, and outputs that set of statistics to the pre-download statistics server ").

Regarding claim 38, Smith teaches that the state prediction module is configured to update a prediction algorithm based on whether or not the successful prediction notification is received from the mobile device. *See* Smith at col. 7 line 65 - col. 8, lines 7 ("Step 234 determines whether the user actually requested access to the pre-cached information from the information network. If the user did not actually request access to the pre-cached information from the information network, the historical usage pattern for the user is updated in step 240 and the schedule for pre-caching the information is adjusted in step 242"). It would have been obvious to use this technique in Kasriel's system because Smith teaches that the technique may be used to update and improve the schedule for pre-caching. *See id.*

Regarding claims 21 and 26-28, Kasriel and Desai teach a method for use with a communication device by which a user requests data from a server via a network and receives the requested data from the server via the network, the method comprising the following steps:

predicting, by the server, what data the user will request, based on historical requests for the data, *see* Kasriel at col. 2, lines 1-5 ("The web server maintains statistical information responsive to requests for information made by users, to estimate which links between web pages are most likely to be followed.");

storing, by the device, the data until the data is requested by the user; and presenting, by the device, the stored data to the user if and when the user requests the data, *see* Kasriel at col. 1, lines 61-65 ("A web server maintains information regarding which web pages are most likely to be requested by users, and pre-downloads those web pages to associated web clients in advance of actual requests being made by the user.").

Desai teaches the step of:

pushing, by the server, the data to the device without the user or the device first requesting the data, *see* Desai at col. 3, paragraph 2 ("and independently of any subsequent request for a second page of the Web site originating from the remote computer, preemptively carrying out a second sending step to send the remote computer one or more selected second page of the Web site based upon a prediction of a subsequent request by the remote computer, and/or a history of second pages of the Web site previously accessed by the remote computer").

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Desai's technique in Kasriel's system because Desai discloses a similar method for predictive and preemptive page caching for improved site navigation.

Kasriel does not teach that the periodic basis at which the first response data is pushed to the mobile device is determined based on a time period during which a user of the mobile device has repeatedly requested the stored data requests. However, Smith does teach that it is well known pre-cache data on a periodic basis according to a time period during which a user of the mobile device has repeatedly requested the stored data requests such that the response data pre-cached prior to an expected new request from the user during this time period. *See* Smith at col. 7 ("step 200 monitors the user's activities on an information network such as the information that the user accesses, the time of day during which the user accesses each information, and the duration of each access. Step 202 creates a historical usage pattern for the user based on the user's activities on the information network. … [S]teps 220 and 222 determine which information the user is expected to access from the information network and the expected time of day at which the user will request access to the information based upon the user's historical usage pattern. Step 224 creates a schedule for pre-caching the information that the user is expected to access from the information network within a threshold amount of time from the expected time at which the user will request access to the information"). It would have been obvious to one of ordinary skill to use Smith's – re-caching technique in Kasriel's system because Smith teaches that the disclosed

technique is operable to increase the likelihood that the most recent information is provided to the user in a timely manner. *See* Smith, *Abstract*.

Regarding claim 22, Desai teaches, after the presenting step: sending, by the device to the server, an indication of whether the user requested the stored data. *See* Desai at col. 2, lines 56-65 ("The method may also include maintaining a history of the user requested second documents and sending the history to the second computer").

Regarding claim 23, Desai teaches, before the pushing step, assessing the cost effectiveness of pushing the data to the device without having first received a request for the data from the user. *See* Desai at col. 9, paragraph 2.

Regarding claim 24, Desai teaches, in the storing step, the data is stored along with an indication of when the data should be updated. *See* Desai at col. 7, paragraph 2 ("Those of skill in this art will recognize that many such mechanisms may be implemented herein. For example, the entries in the cache 220 may be invalidated after a specific time period has elapsed or by a specific date, to insure that the computer 218 does not display stale Web pages to the user from its cache").

Regarding claims 29 and 32-33, Kasriel and Desai teach a method for use with a communication device by which a user requests data from a server via a network and receives the requested data from the server via the network, the method comprising the following steps in the following order:

predicting, by the server, what data the user will request, based on historical requests for the data, *see* Kasriel at col. 2, lines 1-5 ("The web server maintains

statistical information responsive to requests for information made by users, to estimate which links between web pages are most likely to be followed.");

sending, by the server to the device, the data to the device, *see* Desai at col. 3, paragraph 2 ("and independently of any subsequent request for a second page of the Web site originating from the remote computer, preemptively carrying out a second sending step to send the remote computer one or more selected second page of the Web site based upon a prediction of a subsequent request by the remote computer, and/or a history of second pages of the Web site previously accessed by the remote computer");

storing, by the device, the data until the data is requested by the user, *see* Kasriel at col. 1, lines 61-65 ("A web server maintains information regarding which web pages are most likely to be requested by users, and pre-downloads those web pages to associated web clients in advance of actual requests being made by the user.");

presenting, by the device, the stored data to the user if and when the user requests the data, *see id.*; and

informing the server, by the device, whether the user requested the stored data, *see* Desai at col. 2, lines 56-65 ("The method may also include maintaining a history of the user requested second documents and sending the history to the second computer").

Kasriel does not teach that the periodic basis at which the first response data is pushed to the mobile device is determined based on a time period during which a user of the mobile device has repeatedly requested the stored data requests. However,

Smith does teach that it is well known pre-cache data on a periodic basis according to a time period during which a user of the mobile device has repeatedly requested the stored data requests such that the response data pre-cached prior to an expected new request from the user during this time period. *See* Smith at col. 7 ("step 200 monitors the user's activities on an information network such as the information that the user accesses, the time of day during which the user accesses each information, and the duration of each access. Step 202 creates a historical usage pattern for the user based on the user's activities on the information network. … [S]teps 220 and 222 determine which information the user is expected to access from the information network and the expected time of day at which the user will request access to the information based upon the user's historical usage pattern. Step 224 creates a schedule for pre-caching the information that the user is expected to access from the information network within a threshold amount of time from the expected time at which the user will request access to the information"). It would have been obvious to one of ordinary skill to use Smith's – re-caching technique in Kasriel's system because Smith teaches that the disclosed technique is operable to increase the likelihood that the most recent information is provided to the user in a timely manner. *See* Smith, *Abstract*.

Regarding claim 30, Desai teaches updating the probabilities based on the user's browsing history. *See* Desai at col. 10, line 60-col. 11, line 7 ("the history may be updated, optionally by adding or subtracting members from the list of previously accessed pages of the history and/or by changing the weighting coefficients associated with the constituent members of the history").

Regarding claim 31, Desai teaches that the predicting step takes into account the cost effectiveness of pushing the data in determining which data to send in the sending step. *See* Desai at col. 9, paragraph 2.

Regarding claim 35, Kasriel teaches that the state prediction module is operable to predict the first forecasted data request based on a Markov chain model. *See* Kasriel at col. 5, lines 15-22 ("initial node, a final node, a transition from the initial note [sic] to the final node, and a measure of a weighted probability of transition").

6. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable for the reasons set forth above, further in view of **Beyda** (U.S. Patent App. Pub. No. 2003/0061451).

Regarding claim 25, Beyda teaches that the predicting step predicts the data being requested at a particular time of day, and the pushing step is performed in response to that time of day arriving and not in response to receiving a request from the user. *See* Beyda at p. 1, paragraph 11 ("The latency may further be reduced if the web pages which are popular during a certain period is pre-loaded some time before the 'high-access period' begins"). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use this feature with Kasriel's and Desai's systems because Codella teaches a similar system for predictive data caching. *See* Beyda, *Abstract*

7. Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable for the reasons set forth above, further in view of **Codella** (U.S. Patent No. 7,003,566).

Regarding claim 36, Codella teaches limiting the predicted state to a maximum depth. *See* Codella at p. 15, lines 38-47 ("the 'depth' of the prediction can be configurable"). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use this feature with Kasriel's and Desai's systems because Codella teaches a similar system for predictive data caching. *See* Codella, *Abstract*.

## ***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to WILLOW NOONAN whose telephone number is (571)270-1322. The examiner can normally be reached on Monday through Friday, 7:30 AM-5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Pwu can be reached on (571) 272-6798. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Willow Noonan
Examiner, Art Unit 2146

/Joseph E. Avellino/
Primary Examiner, Art Unit 2146